

Cosmic Microwave Background Radiation

António Saraiva -- 2008-11-25

ajps2@hotmail.com

The cosmic background radiation is generated by the rotation of the universe.

$$c^2 t^2 - x^2 = k \quad \text{and} \quad k = 1.9 \times 10^{-34} m^2$$

$$t = \frac{x}{w}; \quad t = \frac{1}{f}; \quad w = \frac{cx}{\sqrt{k+x^2}}$$

$$\frac{dw}{dx} = f_R = \frac{kf^3}{c^2} \quad \Leftrightarrow$$

$$\Leftrightarrow \quad \frac{H_0}{2\pi} = \frac{k}{c^2} \left(\frac{k_B T}{h} \right)^3$$

c – light speed; H_0 -- Hubble constant = $2.3 \times 10^{-18} Hz$

$\frac{H_0}{2\pi}$ -- frequency of rotation of the universe; k_B -- Boltzmann constant

h – Planck constant

T – temperature of background radiation = 2.7K

$$T = \frac{h}{k_B} \sqrt[3]{\frac{c^5}{2\pi k G M_U}} = 2.7 K$$

G – gravitational constant; M_U – mass of the universe